

Work Order ID 54882

January 5, 2010 8:03:41 AM



Page 1

Item ID: D117-762-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtubes

Start Date: 05/01/2010 Star Qty: 1.00

Customer Item ID:

Required Date: 18/01/2010 1st'd Qty: 1.00

Customer:

Reference:

Run Start



Approvals: Process Plan: *RL*

Date: 10-1-05 Tooling:

Date:

QC:

Date: SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
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D3582	Rev A
-------	-------

100		0.00
-----	--	------



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy bluefile & type labels per PPP D117-762-041 CHG001

N/A

110		0.00
-----	--	------



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1-Determine square end of tube and deburr
2-Drill #30 pilot holes using DT8678.
3- open holes to 5/16"

CLK

MB 1001-06

120		0.00
-----	--	------



BENDING MACHINE - SKIDTUBES

CNC Bend 1

Memo

0.00

CNC Delta 100 Bender

Bend tube as per program D3582 on CNC Bender and Dwg D3582. Use 5/16" locator pin on buggy "A".

TX

MB 1001-06

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

Work Order ID 54882



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January 5, 2010 8:03:41 AM

Item ID: D117-762-041

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Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 05/01/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 18/01/2010 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130

0.00



Skidtubes

Skidtubes

Skidtubes

Memo

1-Cut Fwd end of the tube using DT8185

2-Cut Aft end using DT8185

3-Deburr ends

4-Drill Aft Cap holes using DT8678 ***DO NOT OPEN AFT CAP HOLE***

5-Locate DT 8973 & Drill Ground wire hole on top of Tube.

6-Install 3/16 cleco in Ground wire hole ,then drill all X-Boltholes using 3/16" drill.

7-Drill pilot holes for wearplates using DT8974

8-Open wearplate holes to Ø19/64" (0.297") as per Dwg D3582.

9- open ground wear holes to 0.391" as per section B-B

10-Open Aft Cap holes using .209" drill.

11-Drill pilot holes for section D-D and E-E. Holes must be laid out by hand. Mark out Center line and make sure that 6.65 and 5.906 measurements are respected. Double check before drilling, do not open holes to finish size.

MS
10-01-06

DP 10-1-7

DP 10-1-8

W/O:		WORK ORDER CHANGES					
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Start Date: 05/01/2010 Start Qty: 1.00



Cust Item ID:

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Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

140

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1-Weld fwd cap D2964 per dwg D3582 and QSI 004
A/R AL ROD Batch: M112860 *DE 10/01/11*
2-Grind flush
AWM - 10-01-11

150

0.00



QC10- Inspect visual per QSI004- ground welds

QC

Memo

0.00

Quality Control

⇒ S106014

160

0.00



QC5- Inspect part completeness to step on W/O

QC

Memo

0.00

Quality Control

⇒ S106014



W/O:		WORK ORDER CHANGES					
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Customer:

Reference:

Run Start



Approvals: Process Plan: Date:

Tooling: Date:

Stop



QC: Date:

SPC (Y/N): Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

170

Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

(X)

MS

10-01-12

180

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

1

10/1/12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

190

0.00



Skidtubes

Skidtubes

Memo

0.00

1-Open X-Bolt holes to finish size as per Dwg D3582, all sections

2-Counter Sink X-BOLT holes as per Dwg D3582

3-Deburr and blow out chips from inside of tube, prep. tube for welding.

4-Bond web as per Dwg D3582 & QSI 015

A/R 241 Sike Flex Batch: M112395

Exp Date: 10/2/30

5-Weld x-bolt spacers(D2973) as per Dwg D3582 section B-B.

A/R AL ROD Batch: M112360

6-Grind welds flush

0.11 10-01-14

H 10/1/12

200

QC10- Inspect visual per QSI004- ground welds

0.00



QC

Memo

0.00

Quality Control

⇒ 510101/14

40

W/O:		WORK ORDER CHANGES					
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Cust Item ID:

Required Date: 18/01/2010 Req'd Qty: 1.00

Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

210

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

=> S101014



Quality Control

215

Pressure Wash per QSI005 4.3

0.00



HandFinish

Memo

0.00

=> M 18-01-10



8

Hand Finishing

220

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

Memo

0.00

=> M 18-10-01



Gr

Powder Coating

START TIME 10:30AM
OVEN TEMPERATURE: 320°F
FINISH TIME: 11:00AM

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Work Order ID 54882



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January 5, 2010 8:03:41 AM

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Setup Start



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Item Name: Replacement Skidtube

Start Date: 05/01/2010 Start Qty: 1.00

Cust Item ID:

Required Date: 18/01/2010 Req'd Qty: 1.00

Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

230

QC3- Inspect Part Finish

0.00

BR 10-01-21

①. ①



QC

Memo

0.00

Quality Control

240

HandFinishing

0.00

BR 10-01-21

①



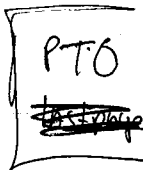
HandFinish

Memo

0.00

Hand Finishing

Install Wearplate & Ground Wire inserts as per Dwg D3582.



250

HandFinishing

0.00



HandFinish

Memo

0.00

Hand Finishing

1-Inspect for Foreign objects
2-Install Aft cap as per Dwg D3582, Detail "C"
A/R 241 Sika Flex Batch: M112345
Exp Date: 10/03
3-Install Wearplates as per Dwg D3582
Note: Install Bolt and w LUBE FOR PLUG 101223.

BR 10-01-21. ①.

10/01/21

Wing Walk as per dwg batch: 112900.

m.p 10/02/16 (1X)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D117-762-041 PAR #: 7 ^{See NCR 10-011} Fault Category: Prod. Skid tubes NCR: Yes (No) DQA: / Date: 10-02-04
 Resolution: re-work Disposition: re-work QA: N/C Closed: / Date: /

NCR: <u>54882</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
10-02-04	250	Upon assembly of the D3508-9 wear plate, it was noticed that the holes in the tube were too narrow and causing the wearplate to lift in the center when tightened.	<u>JS/MLZ</u>	Drill jig fuel hole angle slightly changed (came in) with use, due to mild O.D crushing on the tube from bending. DT8974 is Reworked.	<u>See NCR 10-011</u>	<u>7/10-02-04</u>	<u>JS/MLZ</u>	<u>7/10-02-04</u>
		R.C. Tooling.	<u>CP</u> <u>10-02-11</u> <u>JS/MLZ</u>	On the 2 most fuel holes on the D3508-9 wearplate, slot the holes, square, to max 0.060" (or as necessary), to allow the bolts to tighten	<u>DD</u> <u>10-2-11</u>	<u>S</u> <u>10-02-11</u>	<u>CP</u> <u>10-02-04</u> <u>JS/MLZ</u>	<u>7/10-02-04</u>
			<u>CP</u> <u>10-02-11</u> <u>JS/MLZ</u>	with out any bending up of the wear plate. * open/slot, square to 0.060" maximum towards center line. - NON STRUCTURAL, ACCEPTABLE	<u>DD</u> <u>10-2-11</u>	<u>S</u> <u>10-02-11</u>	<u>CP</u> <u>10-02-04</u> <u>JS/MLZ</u>	<u>7/10-02-04</u>

NOTE: Date & initial all entries

Work Order ID 54882



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Item ID: D117-762-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 05/01/2010 Start Qty: 1.00

Cust Item ID:

Required Date: 18/01/2010 Req'd Qty: 1.00

Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

260

QC5- Inspect part completeness to step on W/O

0.00



Dieter

QC

Memo

0.00



Quality Control

270

Packaging

0.00



Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPP D117-762-041

Location:

PPP Rev:

PPP 55576

Per 10/2/18

280

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10/02/18

MF

10-2-18

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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NOTE: Date & initial all entries

Picklist Print

January 5, 2010 8:03:46 AM

Page 1

Work Order ID: 54882

Parent Item: D117-762-041

Parent Item Name: Replacement Skidtube

Comments: IPP RevD: add pressure wash DD 09.12.11 verified by:EC

Start Date: 05/01/2010

Required Date: 18/01/2010

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
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D2962-150

Manufactured

No

110

Each

36.0000

1.0000



3.540 Outer Tube, Extrud

MS 10-01-06

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

36

28672

36

D2964

Manufactured

No

140

Each

30.0000

1.0000



Cap

1x

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

30

14101

30

D2971

Manufactured

No

190

Each

37.0000

1.0000



Cross Bolt Spacer

1 BE 02/01/11

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

37

44445

37

1 BE 10/01/14

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Start Date: 05/01/2010

Required Date: 18/01/2010

Comments: IPP RevD: add pressure wash DD 09.12.11 verified by:EC

Start Qty: 1.00

Required Qty: 1.00

Component ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	La Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
----------------------------	------------------------	---------------	-------------	---------------------	----------------	-----------------	--------------------	----------------	--------------------------	---------------	----------------	--------

D3584-1

Manufactured

No

190

Each

2.0000

1.0000



Web

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

LG

2

54349

2

190

Each

199.0000

2.0000

D2973

Manufactured

No



Cross Bolt Spacer

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

199

14636

199

190

Each

34.0000

1.0000

D3662-3

Manufactured

No



Crossbolt Spacer

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

34

44456

34

January 5, 2010 8:03:46 AM

Shop Packet Print

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Comments: IPP RevD: add pressure wash DD 09.12.11 verified by:EC

Start Qty: 1.00

Required Qty: 1.00

Component Item ID Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
--------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	--------------------------	---------------	----------------	--------

D3662-1 Manufactured No

190

Each

24.0000

3.0000



Crossbolt Spacer

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

24

39022

6

39585

18

240

Each

2,717.000

36.0000

ALS4-1032-130

Purchased

No



Insert

43 SE 10/01/14

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

2717

110511 ✓

2717

240

Each

40.0000

2.0000

ALS4-428-165

Purchased

No



Inserts

36 BL 10-01-21

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

FP

40

6989 ✓

40

2 BL 10-01-21

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Comments: IPP RevD: add pressure wash DD 09.12.11 verified by:EC

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2965		Manufactured	No			250	Each	55.0000	1.0000			
Cap, 105 Skidtube												

Warehouse Loc Qty Loc Code

Location

Main Warehouse

FP4

55

52057 ✓

55

D3508-3 Manufactured No

250

Each

7.0000

1.0000



Wearplate

Warehouse Loc Qty Loc Code

Location

Main Warehouse

FP21

7

51386 ✓

7

D3508-9 Manufactured No

250

Each

3.0000

1.0000



Wearplate

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST

3

46596

3

January 5, 2010 8:03:46 AM

Shop Packet Print

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

January 5, 2010 8:03:46 AM

Work Order ID: 54882



Parent Item: D117-762-041



Parent Item Name: Replacement Skidtube

Start Date: 05/01/2010

Required Date: 18/01/2010

Comments: IPP RevD: add pressure wash DD 09.12.11 verified by:EC

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Rate Set ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3558-3		Manufactured	No			250	Each	12.0000	1.0000			
Gasket												

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST

12

51391 ✓

12

D3558-9

Manufactured

No

250

Each

15.0000

1.0000



Gasket

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

15

50928 ✓

15

D3558-11

Manufactured

No

250

Each

13.0000

1.0000



Gasket

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

13

40399

1

42254 ✓

12

1 BK 10-01-21

1 BK 10-01-21

1 BK 10-01-21

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

January 5, 2010 8:03:46 AM

Work Order ID: 54882

Parent Item: D117-762-041

Parent Item Name: Replacement Skidtube



Start Date: 05/01/2010

Required Date: 18/01/2010

Comments: IPP RevD: add pressure wash DD 09.12.11 verified by:EC



Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3558-13		Manufactured	No			250	Each	9.0000	1.0000			
												
Gasket												



Warehouse	Loc Qty	Loc Code
Location		
Main Warehouse		
ST	9	
40400 ✓	4	
42255,	5	

1 BR 10-01-20

D3508-11		Manufactured	No			250	Each	7.0000	1.0000			
												
Wearplate												

Warehouse	Loc Qty	Loc Code
Location		
Main Warehouse		
ST	7	
40398	2	
46880 ✓	5	

1 BR 10-01-20

D3508-13		Manufactured	No			250	Each	5.0000	1.0000			
												
Wearplate												

Warehouse	Loc Qty	Loc Code
Location		
Main Warehouse		
ST	5	
42252 ✓	5	

1 BR 10-01-20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

January 5, 2010 8:03:46 AM

Work Order ID: 54882



Parent Item: D117-762-041



Parent Item Name: Replacement Skidtube

Start Date: 05/01/2010

Required Date: 18/01/2010

Comments: IPP RevD: add pressure wash DD 09.12.11 verified by:EC

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Stages
D3492-051		Manufactured	No			250	Each	20.0000	2.0000			
Plug Assembly												

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST

20

44633 ✓

20

250

Each

16.0000

2.0000

2 / pk 10-01-21

D3492-049

Manufactured No



Plug Assembly

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST

16

40356

1

44632 ✓

15

2 / pk 10-01-21

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

January 5, 2010 8:03:46 AM

Work Order ID: 54882



Parent Item: D117-762-041



Parent Item Name: Replacement Skidtube

Start Date: 05/01/2010

Required Date: 18/01/2010

Comments: IPP RevD: add pressure wash DD 09.12.11 verified by:EC

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3492-053		Manufactured	No			250	Each	68.0000	6.0000			



Plug Assembly

Warehouse Loc Qty Loc Code

Location

Main Warehouse

FP 66

54641 ✓ 66

Main Warehouse

ST 2

44063 2

AN960JD10L

Purchased

No

250

Each

4,915.000 2.0000



Washer

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST 4915

101291 16

104885 25

105793 236

109632 174

110985 ✓ 4464

6 PR 10-01-21.

2 PR 10-01-21.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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Picklist Print

January 5, 2010 8:03:46 AM

Work Order ID: 54882



Parent Item: D117-762-041



Parent Item Name: Replacement Skidtube

Start Date: 05/01/2010

Required Date: 18/01/2010

Comments: IPP RevD: add pressure wash DD 09.12.11 verified by:EC

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	--------------------------	---------------	----------------	--------

AN3C4A

Purchased

No

250

Each

1,195.000

28.0000



BOLT

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

1195

112314

13

112720

12

112724

3

112829

1

112991

2

113121

64

113226

586

113359

14

113422 ✓

500

28 Bk 10-01-21

AN3C5A

Purchased

No

250

Each

669.0000

2.0000



Bolt

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

669

111424

8

111707

69

112314

1

113121

291

113149

300

2 Bk 10-01-21

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

January 5, 2010 8:03:46 AM

Work Order ID: 54882



Parent Item: D117-762-041



Parent Item Name: Replacement Skidtube

Start Date: 05/01/2010

Required Date: 18/01/2010

Comments: IPP RevD: add pressure wash DD 09.12.11 verified by:EC

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
AN960JD416L 		Purchased	No			250	Each	795.0000	2.0000			
Washer												

Warehouse	Loc Qty	Loc Code
<u>Location</u>		
Main Warehouse		
ST	795	
105078	4	
107008	54	
108583 ✓	40	
110153 ✓	297	
112492	400	

1/10-01-26
1/10-01-26

AN960C10L 	Purchased	No				250	Each	416.0000	28.0000			
washer												

Warehouse	Loc Qty	Loc Code
<u>Location</u>		
OFFSHORE	113288	
FG	100	
103585	100	
Main Warehouse		
ST	316	
112116	156	
112612	160	

28. 10-01-26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

January 5, 2010 8:03:46 AM

Work Order ID: 54882

Parent Item: D117-762-041

Parent Item Name: Replacement Skidtube


Start Date: 05/01/2010

Required Date: 18/01/2010

Comments: IPP RevD: add pressure wash DD 09.12.11 verified by:EC


Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacem Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
AN4-4A  Bolt		Purchased	No			250	Each	119.0000	2.0000			


<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	119	
101291	3	
106918	1	
108138 ✓	58	
111295	57	

2 Bl 10-01-21

NAS1611-012  O-RING		Purchased	No			250	Each	60.0000	6.0000			
--	--	-----------	----	--	--	-----	------	---------	--------	--	--	--

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	60	
108673 ✓	60	

6 Bl 10-01-21

NAS1611-015  O-RING		Purchased	No			250	Each	20.0000	2.0000			
--	--	-----------	----	--	--	-----	------	---------	--------	--	--	--

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	20	
107178 ✓	20	

2 Bl 10-01-21

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Page 12

January 5, 2010 8:03:46 AM

Work Order ID: 54882



Parent Item: D117-762-041



Parent Item Name: Replacement Skidtube

Start Date: 05/01/2010

Required Date: 18/01/2010

Comments: IPP RevD: add pressure wash DD 09.12.11 verified by:EC

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
NAS1611-016		Purchased	No			250	Each	117.0000	2.0000			

O-RING

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	117	
107178 ✓	17	
112492	50	
113524	50	

2. 1001-21.

January 5, 2010 8:03:46 AM

Shop Packet Print

Page 12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

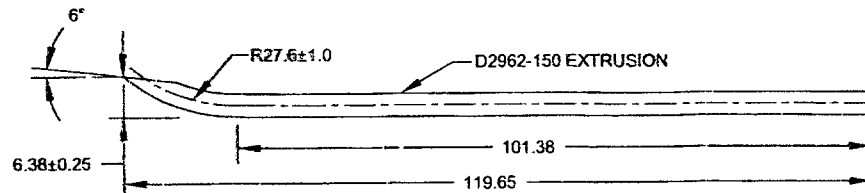
NOTE: Date & initial all entries

PARTS LIST FOR D3582-041 SKIDTUBE ASSEMBLY

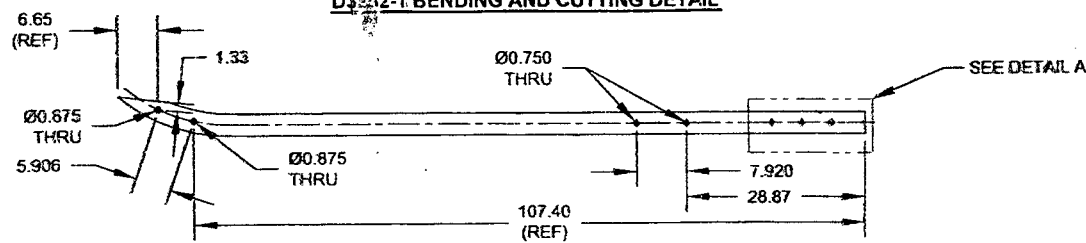
Qty	Part Number	Description
X	D3582-041	SKIDTUBE ASSEMBLY
1	D2962-150	EXTRUSION
1	D2964	CAP
1	D2965	CAP
1	D2971	CROSS BOLT SPACER
2	D2972	CROSS BOLT SPACER
2	D3492-049	PLUG ASSEMBLY
2	D3492-051	PLUG ASSEMBLY
6	D3492-063	PLUG ASSEMBLY
1	D3508-3	WEARPLATE
1	D3508-9	WEARPLATE
1	D3508-11	WEARPLATE
1	D3508-13	WEARPLATE
1	D3538-3	GASKET
1	D3538-9	GASKET
1	D3538-11	GASKET
1	D3538-13	GASKET
1	D3564-1	WEB
3	D3662-1	CROSS BOLT SPACER
1	D3662-3	CROSS BOLT SPACER
36	AEIS-1032-130	INSERT
2	AL57-426-165	INSERT
28	AN3C4A	BOLT
2	AN3-5A	BOLT
2	AN4-4A	BOLT
28	AN960C10L	WASHER
2	AN960JD10L	WASHER
2	AN960JD416L	WASHER

GENERAL NOTES:

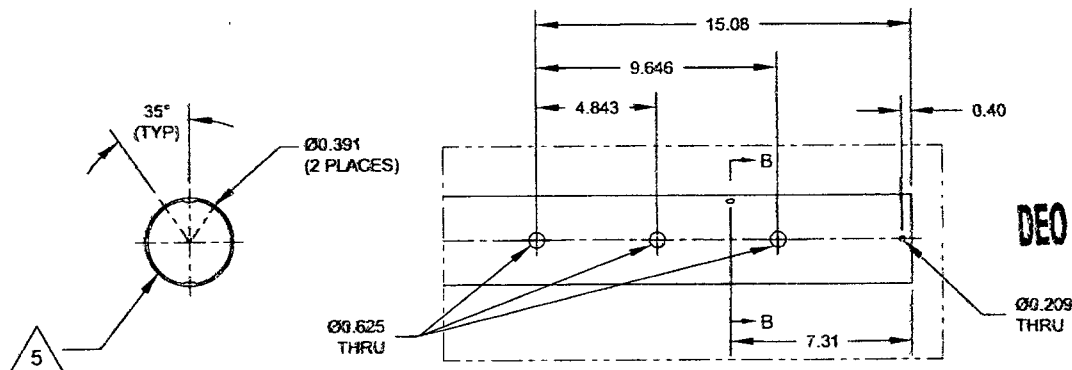
- ALL DIMENSIONS ARE IN INCHES
- TOLERANCES ARE PER DART QSI 016 UNLESS OTHERWISE NOTED
- WELDING TO BE DONE PER DART QSI 004
- INSERT D3584-1 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015 AFTER BENDING.
- USE DART DRILL TEMPLATE DT8800 TO LOCATE AND DRILL Ø0.297 HOLES (36 PLACES) FOR WEARSHOE INSERTS. INSTALL AEIS-1032-130 PER SECTION G-G (36 PLACES) AFTER FINISH. SEAL WEARPLATE BOLTS WITH SIKAFLEX-241/291.
- DO NOT INSTALL AN3C4A BOLTS AND AN960C10L WASHERS IN INDICATED LOCATIONS.
- FINISH:
 - CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSERTING D3584-1 WEB.
 - POWDER COAT ASSEMBLY GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3.
 - ANTI-SKID PAINT AS INDICATED TO 1.00 ABOVE CENTER LINE PER DART QSI 005 4.4.



D3582-1 BENDING AND CUTTING DETAIL



D3582-1 DRILLING DETAIL



SECTION B-B
SCALE 1:5

DETAIL A
SCALE 1:5

DEO ATTACHED

RELEASED
67-11-22-1160

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 34882
B10-1-05

A NEW ISSUE		PH 07.06.08	
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	PH	PORT HADLOCK, WA	
CHECKED	PH	DRAWING NO.	REV. A
MFG. APPR.	PH	D3582	SHEET 1 OF 2
APPROVED	PH	TITLE	SCALE
DE APPR.	PH	BK 117 SKIDTUBE ASSEMBLY	1:20
DATE	07.06.08	COPYRIGHT © 2007 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PROPRIETARY AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION OF DART AEROSPACE USA, INC.	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

D2964 CAP
(GRIND FLUSH)

DETAIL C
SCALE 1:10

D2971 SPACER

SECTION D-D
SCALE 3:10

AFTER FINISH
INSTALL
D3492-049
PLUG ASSEMBLY
(2 PLACES)

SECTION E-E
SCALE 3:10

D3662-3 SPACER

SECTION D-D NOTES

AFTER BENDING AND DRILLING ASSEMBLY
PERFORM THE FOLLOWING:

1. CHAMFER HOLE 0.030 x 45°
2. INSERT D2971 SPACER
3. WELD INTO PLACE AND GRIND FLUSH
4. PASS Ø0.750 DRILL TO REMOVE SPILL OVER
5. AFTER FINISH, INSTALL D3492-049 PLUG ASSEMBLY (2 PLACES)

SECTION E-E NOTES

AFTER BENDING AND DRILLING ASSEMBLY
PERFORM THE FOLLOWING:

1. CHAMFER HOLE 0.030 x 45°
2. INSERT D3662-3 SPACER
3. WELD INTO PLACE AND GRIND FLUSH
4. PASS Ø0.672 DRILL TO REMOVE SPILL OVER
5. AFTER FINISH, INSTALL D3492-051 PLUG ASSEMBLY (2 PLACES)

D2973 SPACER
(2 PLACES)

SECTION F-F
SCALE 3:10

SECTION F-F NOTES

AFTER BENDING AND DRILLING ASSEMBLY
PERFORM THE FOLLOWING:

1. CHAMFER HOLE 0.030 x 45°
2. INSERT D2973 SPACER (2 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. PASS Ø0.625 DRILL TO REMOVE SPILL OVER

D3584-1 WEB (REF)

D3662-1 SPACER
(3 PLACES)

AFTER FINISH, INSTALL
AELS-1032-130
INSERT (36 PLACES)

AN3C4A BOLT (1)
AN960C10L WASHER (1)
(28 PLACES)

SECTION G-G
SCALE 3:10

SECTION G-G NOTES

AFTER BENDING AND DRILLING ASSEMBLY
PERFORM THE FOLLOWING:

1. CHAMFER HOLE 0.030 x 45°
2. INSERT D3662-1 SPACER (3 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. PASS Ø0.515 DRILL TO REMOVE SPILL OVER
5. AFTER FINISH, INSTALL D3492-053 PLUG ASSEMBLY (6 PLACES)

AFTER FINISH, INSTALL
ALS7-428-165 INSERT (1)
AN4-4A BOLT (1)
AN960JD416L WASHER (1)
(2 PLACES)

AFTER FINISH
INSTALL,
D3492-053
PLUG ASSEMBLY
(6 PLACES)

DETAIL C

NO BOLTS AT
THESE LOCATIONS

D3582-041 ASSEMBLY DETAIL

BLACK ANTI-SKID

BLACK ANTI-SKID (TYP)

D3582-041 BLACK ANTI-SKID DETAIL

DETAIL H

DEO ATTACHED

D3584-1 WEB
(REF)

SEAL WITH
SIKAFLEX -2411-291

D2965 CAP

DETAIL H
SCALE 1:5

RELEASED

AN3-5A BOLT (1)
AN960JD10L WASHER (1)
(2 PLACES)

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AG	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D3582	SHEET 2 OF 2
APPROVED		TITLE	SCALE
DE APPR.		BK 117 SKIDTUBE ASSEMBLY	1:20
DATE	07.06.08	COPYRIGHT © 2007 BY DART AEROSPACE USA, INC	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

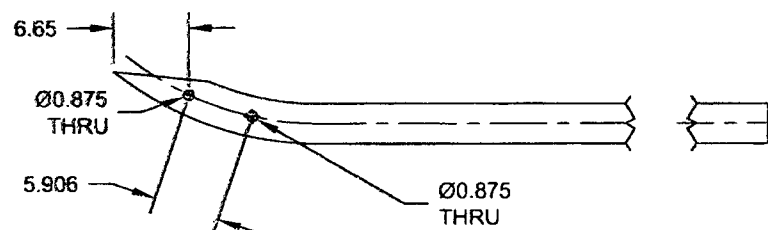
NOTE: Date & initial all entries

DRAWING NO. D3582	TITLE BK 117 SKIDTUBE ASSEMBLY	REV. A	DART AEROSPACE USA, INC ENGINEERING ORDER		D.E.O. NO. D3582-A-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN RH	CHECKED [Signature]	MFG. APPR. [Signature]	APPROVED [Signature]		DE APPR. [Signature]		
DATE 09.04.06	DATE 04.04.06	DATE 09.04.06	DATE 19/04/06		DATE 09.04.06		

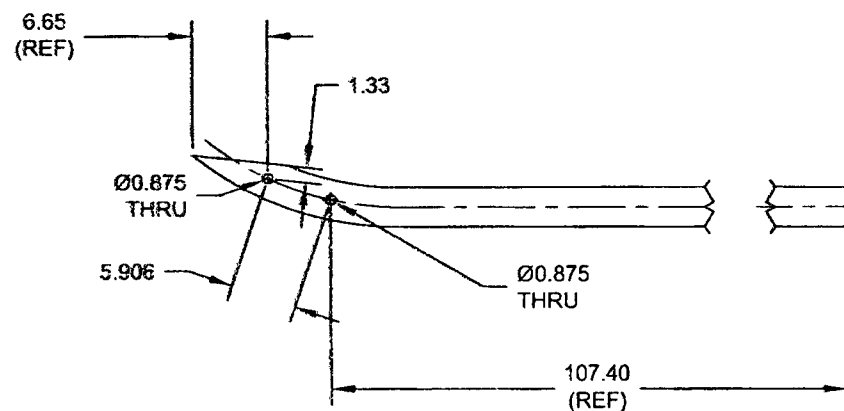
W/O 54882

FOR EASE OF MANUFACTURE AND TO ENSURE THE FIT OF BRISTOL WIRE STRIKE SKID GEAR DEFLECTOR:
UPDATE DIMENSIONING OF 2 FWD HOLES ON SHEET 1 AS SHOWN

IS:



WAS:



RELEASED
09/04/22 [Signature]

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 220

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job number: 54161
Part number: D17-762-041
Description: 17 - 3/4" tube
Welding Process: Tig[☒] Mig[]
Base material: Aluminum
Current: AC[] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[]
Penetration: pass[☒] fail[]

UNACCEPTABLE

Cracks: pass[☒] fail[]
Undercut: pass[☒] fail[]
Pin holes: pass[☒] fail[]
Overlap (cold lap): pass[☒] fail[]
Porosity (surface): pass[☒] fail[]
Coloration: pass[☒] fail[]

Qualifier P.D. Date of Test Coupon 09/12/10
Welder Barclay Elliott Date of Test Coupon 09/12/10

The above named individual is qualified in accordance with AWS D17.1.2001 to weld